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C O N F I D E N T I A L SECTION 01 OF 02 TOKYO 000019

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TAGS: ENRG PARM PREL PGOV JA
SUBJECT: VISIT TO JAPAN'S SHIMANE NUCLEAR POWER PLANT, DISCUSSION OF MOX PLANS

Classified By: EST MC Joyce Rabens, reasons 1.4 (b,d)

1.(SBU) SUMMARY: On November 27, 2006, EST officer visited Shimane Nuclear Power Plant on the northern coast of the Sea of Japan in Matsue City, Shimane. It is the second least populous prefecture in Japan. Embassy officer was provided a tour of Unit 2 restricted areas (Unit 1 was undergoing annual maintenance), a drive-through of Unit 3 construction site, the Shimane Nuclear Power Exhibition Hall, and the Electric Power Plant Simulator. In addition, EST officer received a presentation by CEPCO reps regarding the overall lay-out of the facility, the construction of Unit 3 and future MOX plans. Powerpoint presentations on the General Outline of Shimane NPP and An Overview of Construction of Shimane Unit 3 is available upon request. END SUMMARY.

General Facility Information

2.(C) The Chugoku Electric Power Company operates the Shimane Nuclear Power Plant, which has two Boiling Water Reactors (BWRs). The first reactor started commercial operation in March 1974 (power capacity is 460MW) and due to demand, a second one was added in February 1989 (power capacity is 820MW). Currently, construction is underway to build a third unit (power capacity goal is 1373MW) by December 2011 as an Advanced Boiling Water Reactor (ABWR). The total site area is approximately 1.83 million m2. Like other NPPs, fresh fuel is provided by Canada and France throughout the year. In confidence, however, CEPCO reps revealed that it takes approximately 2-3 days to ship waste materials by sea to the Rokkasho-mura. Transportation movement is highly protected and guarded. Shimane NPP services the following prefectures: Shimane, Tottori, Okayama, Hiroshima, Yamaguichi and portions of Hyogo, Kagawa and Ehime.

3.(SBU) In an effort to maintain the basic skills of all plant operators, the facility also includes an on-site simulator training building with the same layout as that of Unit 2. Originally, the simulator was located in Hatsukai-chi, Hiroshima, formerly called The Ono Training Center. In July 2006, the simulator was transferred to Shimane NPP. It is equipped with a computerized plant operation simulator for reactor, turbine, and generator operation training. Operator training is provided on an on-going, rotational basis. There are three shifts of six teams that maintain the control room, and each day two of the teams receive training in the simulator or maintenance building. The first scheduled shift is 22:00-8:00, the second one is 8:00-16:00, and the third shift is 16:00-22:00. For advanced training courses, however, operators attend classes held at the BWR Operation Training Center that is located in Fukushima Prefecture (headquarters with three simulators) and

Niigata Prefecture (branch with two simulators). Previous foreign visitors to the BWR training center include officials from General Electric and guests from Taiwan and other East-Asian countries.

4.(SBU) Operators are generally local high school graduates who submit a recommendation from a teacher, undergo a test, and then an interview in order to gain employment. The next step is for graduates to begin their year long on-the-job-training program. Operators generally stay employed with CEPCO until they reach official retirement age, which is 60 years old in Japan. During their employment, some workers opt to be transferred to work at other CEPCO's offices.

MOX Plans Update

5.(SBU) In September 2005, CEPCO officials submitted to Shimane Prefecture and Matsue municipal officials an advance approval request to use uranium-plutonium mixed oxide (MOX) fuel in Shimane NPP Unit 2 by 2010. As of October 2006, agreement with the local government and citizens was reached. Now, Shimane NPP is awaiting permission from Japan's regulator, the Nuclear Industry and Safety Agency. Approval could take up to one year. Despite the fact that MOX fuel is more expensive and the concern it could potentially be used to build nuclear weapons, Shimane NPP officials asserted that the switch to MOX fuel offers favorable long-term advantages. MOX is environmentally sound because it does not increase carbon dioxide emissions in the atmosphere and the amount of high-level radioactive waste can be reduced. Furthermore, domestically-produced MOX fuel adds to long-term energy security because it reduces dependence on imported fuels (Japan must import 80% of its primary energy needs.) As part

of Japan's Pluthermal Program, plans are currently underway to convert plutonium recovered at Rokkasho Reprocessing Plant into MOX fuel at Rokkasho MOX fabrication plant, which is expected to go on line by 2012. (NOTE: MOX plans was originally approved by the national government in 1998. However plans came to a halt in 1999 after the falsification of quality-control data by British MOX fuel fabricator, British Nuclear Fuels, on MOX fuel intended for a Japanese plant came to light.)

Physical Protection Measures

6.(SBU) Shimane NPP physical protection measures resemble other NPPs in Japan. Officials verified their multi-layered access control system, including identity checks of visitors by unarmed guards at both gates, physical barriers such as, high double-fenced perimeters, intrusion detection such as, sensors and redundant cameras, as well as 24/7 on-site response forces provided by armed police and the Japan Coast Guard. Inside the reactor building, nuclear safety culture is observed as safety posters are displayed in the corridor. In June 2006, the facility developed a design-basis threat system and plans are underway to strengthen access control by upgrading biometrics monitors.

7.(SBU) CEPCO officials stated that they conduct community disaster drills, but currently are not scheduled for any of the Cabinet Secretariat's antiterrorism drills. One CEPCO representative thought it implausible that terrorism could occur on Japanese soil. He said that a nuclear accident is more realistic than a terrorist attack. Shimane NPP commenced annual disaster drills with involvement from local residents and the police after the 1999 Tokai-mura nuclear incident occurred. To date, CEPCO officials noted that Shimane NPP has never had a fuel leak.

Impressive Community Outreach

8.(SBU) Shimane NPP's public relations office actively promotes the safety and security of the NPP as it allows tours of the power station, provides educational outreach programs at schools, forms study groups for women on nuclear-related topics, and visits elderly-single-persons to clean and inspect electric appliances free of charge. Even after 9/11, the public is allowed to visit to the reactor buildings, excluding restricted areas, as long visitors apply in advance with proper identification. Before 9/11 advance notification was generally not required. In fact, the plant's goal was to grant access to one million visitors.

9.(SBU) To further maintain friendly community relations, there is an on-site Nuclear Power Exhibition Hall resembling a nuclear science museum that is open seven days a week, free of charge to explain the science of nuclear fission. Inside, there is also an interactive full-scale model of a nuclear reactor to show how it works, a monitoring board reporting the level of radiation in the air, as well as other interesting nuclear-related hands-on activities. (NOTE: EST officer highly recommends this exhibition hall to visitors wanting to learn more about the mechanisms of nuclear power generation). Shimane NPP also has a sports park, which includes a soccer field, a gateball game area, and a playground that can be used freely by all. However, there is a chance that portions of the park may be dismantled to make room for the construction of Unit 3.
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